

### REMARKS

Claims 1-51 remain pending in the application. Claims 1, 5, 6, 21, 24, 25, 37, 40, 41, 42, 45, and 50 have been amended. Support for the amendments can be found in the specification. Reconsideration of the claims as amended is respectfully requested.

### CLAIM OBJECTIONS

Examiner's statement-1. Claims 1, 21, 37, and 40 remain objected to for the inclusion of a blank line where the ATCC accession number should be.

Applicant has deposited 2,500 seeds with the ATCC. Attached is the copy of the deposit receipt. Claims 1, 6, 21, 25, 37, and 40 have been amended to include the deposit Accession Number "PTA-4259".

Examiner's statement-2. Claims 1, 2, 3 (amended) 4, 5-6 (both amended), 7, 8 (amended), 9-13, 14-16 (all amended), 17, 21, 22 (amended), 23, 24-25 (both amended), 26, 27, (amended), 28-32. 33-35 (all amended), 36-40, 41 (amended) 42, 43 (amended), 44, and 45-46 (both amended) remain and new claims 50-51 are rejected under the judicially created doctrine of obviousness-type double patenting.

As pointed out on page 6 of the Applicant's first Office Action Response dated 9/28/01, PH54H and PH1GC differ for various traits that are not minor. Ample evidence of the differences was provided. Applicant also points out that Applicant has deposited 2,500 seeds with the ATCC. Claims 1, 6, 21, 25, 37, and 40 have been amended to include the deposit Accession Number "PTA-4259".

In light of the above Applicant respectfully requests the Examiner reconsider and withdraw the rejection to claims 1-51 under doctrine of obviousness-type double patenting.

Examiner's statement-3. Claims 4, 5, (amended), 23, and 24 (amended) remain and claims 6 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons of record stated in the last Office action on page 4 under item 5.

In the previous office action dated 6/29/01, the Examiner suggests that "claims 4 and 23 be amended to indicate that the tissue culture regenerates plants having all of the physiological and morphological characteristics of maize inbred line PH54H." Applicant traverses this rejection based on the fact that what is being claimed is a tissue culture of regenerable cells. These cells being taken from the claimed invention and with knowledge known to one of ordinary skill in the art are formed into cultures. The cells contain the genetics being used in the cultures. Protocols are well known and varied for this type of use. In the previous office action dated 6/29/01, the Examiner goes on to reject claims 6 and 25 and states the following, "the claims now read on somaclonal variants that do not retain PH54H-derived genetic material." Applicant has amended claims 6 and 25 by inserting "capable of expressing all the morphological and physiological characteristics of inbred line PH54H, representative seed of which have been deposited under ATCC Accession No. PTA-4259." Thus, the claim does not cover plants regenerated from somaclonal variants that are not capable of expressing all the morphological and physiological characteristics of inbred line PH54H.

Examiner's statement-4. Claims 1, 2, 3, (amended) 4, 5-6 (both amended), 7, 8, (amended), 9-13, 14-16 (all amended), 17-20, 21, 22 (amended), 23, 24-25 (both amended), 26, 27, (amended), 28-32, 33-35 (all amended), 36-40, 41 (amended), 42, 43 (amended), 44, and 45-46 (both amended), 47-49 remain and new claims 50-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons of record stated in the last Office action on page 5 under item 6 for claims 1-49.

In the previous office action dated 6/29/01, under item 6 the Examiner states, "...the name appears to be arbitrary and the specific characteristics associated with therewith could be modified, as there is no claimed description of the maize plant that encompasses all of its traits. Amending claims 1, 6, 21, 25, 37, and 40 to recite the ATCC deposit number in which seed of maize inbred line PH54H has been deposited would overcome the rejection." Applicant points out that Applicant has deposited 2,500 seeds with the ATCC. Claims 1, 6, 21, 25, 37, and 40 have been amended to include the deposit Accession Number "PTA-4259".

Examiner's statement-5. Claims 17, 36, and 43 (amended) remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons of record stated in the last Office action on page 8 under item 12.

In the previous office action dated 6/29/01, under item 12 the Examiner states, "The claims are indefinite in that it is unclear what would constitute the maize plants and parts, given that they are products of multiple crosses and it is unclear what characteristics said plants and plant parts would have. With regard to claims 17 and 36, it remains unclear how many generations would be encompassed by the breeding program of the claim on which they depend." The Applicant respectfully argues that the plants derived from breeding with PH54H are within the scope of the invention. The claims clearly say that crosses are made to inbred maize line PH54H. This means that plants developed utilizing the genetic make-up of PH54H transferred via crosses are within the scope of the invention. Use of the genetics of PH54H, use of the PH54H plant to make crosses, and the ultimate result of a plant with part of the genetics of PH54H is within the scope of the invention. If one does not use PH54H to develop a plant, then this is not within the scope of the invention because the unique invention, PH54H, was not used.

Examiner's statement-6. Claims 1, 2, 3 (amended) 4, 5-6 (both amended), 7, 8 (amended), 9-13, 14-16 (all amended), 17-20, 21, 22 (amended), 23, 24-25 (both amended), 26, 27, (amended), 28-32, 33-35 (all amended), 36-40, 41 (amended) 42, 43 (amended), 44, and 45-46 (both amended), 47-49 remain and new claims 50 and 51 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for the reasons of record stated in the last Office action on page 9 under item 14 for claims 1-49.

In the previous office action dated 6/29/01, under item 14 the Examiner states, "...If the deposit of seeds is made under the terms of the Budapest Treaty, then an affidavit or declaration by the applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the seeds will be irrevocably and without restriction or condition released to the public upon

the issuance of a patent would satisfy the deposit requirement made herein....”  
Applicant has made a deposit under the terms of the Budapest Treaty. See amendments to the specification that state the terms.

Examiner's statement-7. Claims 1, 2, 3 (amended), 4, 5-6 (both amended), 7, 8 (amended), 9-13, 14-16 (all amended), 17, 21, 22 (amended), 23, 24-25 (both amended), 26, 27 (amended), 28-32, 33-35 (all amended) 36-40, 41 (amended), 42, 43, (amended), 44, and 45-46 (both amended) remain and new claims 50 and 51 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Carrigan et al. (U.S. patent No. 5,936,148), for the reasons of record stated in the last Office action on page 11 under item 15 for claims 1-17 and 21-46.

In the previous office action dated 6/29/01, under item 15, the Examiner states, “Amending claims to include the ATCC accession number will over come the rejection for claims 1-13, 15-32, 34-40, 42-44, and 47-49.” Applicant has added the ATCC accession numbers to the appropriate claims. The Examiner further states in the previous office action dated 6/29/01 that “...even with the inclusion number, the plants of claims 13, 33, 41, 45, and 46 are still taught by Carrigan et al. as inbred line PH1GC has two characteristics of PH54H listed in those claims.” The claims clearly say that crosses are made to PH54H and plants derived from making crosses to PH54H are within the scope of the invention. This means that plants developed utilizing the genetic make-up of PH54H transferred via crosses are within the scope of the invention. Use of the genetics of PH54H, use of the PH54H plant to make crosses, and the ultimate result of a plant with part of the genetics of PH54H is within the scope of the invention. If one uses a plant other than PH54H to develop a plant very similar in physical appearance and agronomic traits then this is not within the scope of the invention because the unique starting material, PH54H, was not used. The claims also state that the PH54H-derived plants must have 2 traits from PH54H. These traits, such as yield and relative maturity, are controlled by many genes and are evidence that PH54H has provided a genetic contribution to the progeny. Should the examiner maintain these rejections, Applicant requests that the Examiner

specifically state, in accordance with 1.104(d), how PH54H is rendered obvious by PH1GC.

Examiner's statement-8. New claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner states that "Plants can display male sterility, not seed" and suggests the insertion of the word "factors" after the word "sterility". The claim has been amended as suggested by the Examiner.

10. Examiner states that insertion of the ATCC accession number into the claims will over come the obviousness-type double patenting rejection. Applicant has amended claims to include the accession numbers.

11. Examiner states that claims 4 and 23 should be amended to indicate that the tissue culture regenerates plants having all of the physiological and morphological characteristics of maize inbred line PH54H in order to over come the rejection under 35 U.S.C. 112. Applicant refers to the arguments made and amendments pointed out in the response to Examiner's statement-3 above.

12. Examiner states that the "application is not in condition for allowance and the rejection is maintained" under 35 U.S.C. 112. Applicant has made the required deposit and the proper amendments to the claims thus obviating the rejection.

13. Examiner states that the "plants are not defined as the traits that the claimed plants possess are not defined. " Thus the Examiner maintains rejection of claims 17, 36, and 43 under 35 U.S.C. 112, second paragraph. Applicant traverses the rejection. Applicant refers to the arguments made in the response to Examiner's statement-5 above.

14. Examiner states that the "application is not in condition for allowance and the rejection is maintained" under 35 U.S.C. 112. Applicant has made the required deposit and the proper amendments to the claims thus obviating the rejection.

15. Examiner states that the "application is not in condition for allowance and the rejection is maintained" for claims 1-5, 7-13, 15-17, 21-24, 26-32, 34-40, 42-44, 47-49, and new claims 50 and 51 under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) until an ATCC deposit has been made and the appropriate claims amended with the ATCC accession number. Applicant has made the required deposit and the proper amendments to the claims thus obviating the rejection. The Examiner goes on to state that concerning claims 14, 33, 41, 45, and 46 that the claims do not mention the alleles or "genetics" of the cultivar PH54H. The Applicant has amended claims 41 and 45 by deleting the phrase "said PH54H-derived maize plant expressing a combination of at least two traits which are not significantly different from PH54H when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of..." The scope of claims 41 and 45 are within one cross pollination of PH54H. This limitation is stated through claim dependency.

Once again the Applicant would like to point out that the claims do mention the genetics of the cultivar PH54H. The claims clearly say that crosses are made to PH54H and plants derived from making crosses to PH54H are within the scope of the invention. This means that plants developed utilizing the genetic make-up of PH54H transferred via crosses are within the scope of the invention. Use of the genetics of PH54H, use of the PH54H plant to make crosses, and the ultimate result of a plant with the genetics of PH54H is within the scope of the invention. If one uses a plant other than PH54H to develop a plant very similar in physical appearance and agronomic traits then this is not within the scope of the invention because the unique starting material, PH54H, was not used. Should the examiner maintain these rejections, Applicant requests that the Examiner specifically state, in accordance with 1.104(d), how PH54H is rendered obvious by PH1GC.

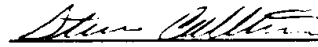
The Examiner goes on to state that newly amended claims 6 and 25 "now read on somaclonal variants that do not retain PH54H-derived genetic material". Applicant again refers to the arguments made and amendments pointed out in the response to Examiner's statement-3 above.

### **CONCLUSION**

Attached hereto is a marked-up version of the changes made to the specification and claims by current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

Applicant submits that in light of the foregoing amendments and remarks, that claims 1-51, as amended, are in condition for allowance. Reconsideration and early notice of allowability is respectfully requested. If it is felt that it would aid in prosecution, the Examiner is invited to contact the undersigned at the number indicated to discuss any outstanding issues.

Respectfully submitted,  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION**

At page 48, lines 2 – 21, following "Deposits", please delete the entire paragraph and insert the clean version.

**IN THE CLAIMS**

Claims 1, 5, 6, 21, 24, 25, 37, 40, 41, 42, 45, and 50 have been amended as follows:

1. (Amended) Seed of maize inbred line designated PH54H, representative seed of said line having been deposited under ATCC Accession No. [ \_\_\_\_\_ ] PTA-4259.

5. (Twice Amended) The tissue culture [according to] of claim 4, cells or protoplasts of the tissue culture being from a tissue source selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

6. (Twice Amended) A maize plant regenerated from the tissue culture of claim 4, capable of expressing all the morphological and physiological characteristics of inbred line PH54H, representative seed of which have been deposited under ATCC Accession No. PTA-4259.

21. (Amended) A maize plant, or parts thereof, having all the physiological and morphological characteristics of inbred line PH54H, representative seed of said line having been deposited under ATCC accession No. [ \_\_\_\_\_ ] PTA-4259.

24. (Twice Amended) The tissue culture [according to] of claim 23, cells or protoplasts of the tissue culture being from a tissue source selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

25. (Amended) A maize plant regenerated from the tissue culture of claim 23, capable of expressing all the morphological and physiological characteristics of inbred line PH54H, representative seed of which have been deposited under ATCC Accession No. PTA-4259.

37. (Amended) A process for producing inbred PH54H, representative seed of which have been deposited under ATCC Accession No. [ \_\_\_\_\_ ] PTA-4259, comprising:

- (a) planting a collection of seed comprising seed of a hybrid, one of whose parents is inbred PH54H said collection also comprising seed of said inbred;
- (b) growing plants from said collection of seed;
- (c) identifying said inbred PH54H plants;
- (d) selecting said inbred PH54H plant; and
- (e) controlling pollination in a manner which preserves the homozygosity of said inbred PH54H plant.

40. (Amended) A method for producing a PH54H-derived maize plant, comprising:

- (a) crossing inbred maize line PH54H, representative seed of said line having been deposited under ATCC Accession No. [ \_\_\_\_\_ ] PTA-4259, with a second maize plant to yield progeny maize seed;
- (b) growing said progeny maize seed, under plant growth conditions, to yield said PH54H-derived maize plant.

41. (Twice Amended) A PH54H-derived maize plant, or parts thereof, produced by the method of claim 40 [, said PH54H-derived maize plant expressing a combination of at least two traits which are not significantly different from PH54H when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a maturity of 95 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, resistance to root lodging, pollen shed, yield, grain dry down, brittle stalk resistance, plant height, and adaptability to the Northcentral region of the United States].

42. (Amended) The method of claim 40, further comprising:

- (c) crossing said PH54H-derived maize plant with

itself or another maize plant to yield additional PH54H-derived progeny maize seed;

- (d) growing said progeny maize seed of step (c) under plant growth conditions, to yield additional PH54H-derived maize plants;
- (e) repeating the crossing and growing steps of (c) and (d) from [0 to 5 ] 1 to 4 times to generate further PH54H-derived maize plants.

45. (Twice Amended) A PH54H-derived maize plant, or parts thereof, produced by the method of claim 44 [, said PH54H-derived maize plant expressing a combination of at least two traits which are not significantly different from PH54H when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a maturity of 95 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, resistance to root lodging, pollen shed, yield, grain dry down, brittle stalk resistance, plant height, and adaptability to the Northcentral region of the United States] .

50. (Amended) The seed of claim 1 wherein said seed further comprises genetic or cytoplasmic male sterility factors.